UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,246	02/22/2002	Seiji Okumura	2565-0243P	1396

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EXAMINER
WILSON, ROBERT W

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/069,246	OKUMURA, SEIJI
	Examiner	Art Unit
	Robert W. Wilson	2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 February 2002</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-48</u> is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-5,7-10,13,15-20,25-29,31-34,39,40,42-44 and 46</u> is/are rejected.

7)☒ Claim(s) <u>6,11,12,14,21,30,35,36,47 and 48</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>22 February 2002</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☒ All b)☐ Some * c)☐ None of:

  1.☒ Certified copies of the priority documents have been received.

  2.☐ Certified copies of the priority documents have been received in Application No. _____.

  3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>2/22/02</u>.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____ .

Specification

1.   The examiner objects to the specification with all of the outstanding amendments because

the amendment to the specification had many errors defining where the beginning and end of the

changes were to be made and is too difficult to follow in the event that this application becomes

a published patent. For example, the amendment specification changes tell where the deletion

begins but does not always tell where the deletion ends. A substitute specification needs to be

provided which incorporates all of the specification amendments with all of the changes without

adding new matter.

Abstract

2. The examiner objects to the abstract because the amended abstract was not submitted on a

separate page. Also all of the figure reference numbers need to be deleted from the abstract.

Claim Objections

3.   Claims 6, 11-12, 14, 21, 30, 35-36, 38, & 47-48 are objected to as being dependent upon

a rejected base claim, but would be allowable if rewritten in independent form including all of

the limitations of the base claim and any intervening claims.

Claim Objections

4.   Claims 24, 41, & 48 are objected to because of the following informalities: the limitation

packet receiving intervals depending upon the number of times a receiving packet and a

receiving time at every loss of packets of high priority or important founded based on

inconsistence of sequence numbers" makes no sense. The examiner recommends deleting this

limitation. Appropriate correction is required.

Claim Objections

4.   The examiner objects to amended claim format. The applicant provided a list of original

claims and then submitted an amendment with only the amended claims. The applicant should

have submitted an amendment with all of the claims as a package with amended claims

appropriately marked amended. The examiner recommends that when the applicant submits a

response to this action that the applicant submit all of the claims together and appropriately

marked as amended.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
> in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
> patent by another filed in the United States before the invention by the applicant for patent, except that an
> international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
> subsection of an application filed in the United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English language.

6.   Claims 1-5, 7-10, 13, 15-20, 25-29, 31-34, 37, 39-40, 42-44, & 46 are rejected under 35

U.S.C. 102(e) as being anticipated by Fukushima (U.S. Patent No.: 6,587,985).

Referring to claims 1 & 25, Fukushima teaches: A packet retransmission system (Fig 7 & 8)

which includes a transmission apparatus (103 per Fig 7) for transmitting a packet (col. 19 line

39) where a sequence number is added (col. 19 line 29-48) , a reception apparatus (Fig 8)

connected to the transmission apparatus (Fig 7) through a network (inherent between 103 and 21

per Fig 7) and a request application unit (22 & 26 per Fig 7) connected to the reception apparatus

(21 per Fig 8) for retransmitting the packet (col. 19 line 39) where the sequence number is added

(col. 19 line 29-48) between the transmission apparatus (103 per Fig 7) and the reception

apparatus (21 per Fig 8) at the loss of the packet in packet transmission (22 per Fig 8) the

transmission apparatus (Fig 7) comprising:

A retransmission buffer (17 per Fig 7) for storing the packet having been transmitted to the

reception apparatus (21 per Fig 8)

Retransmission-request receiving means for identifying the sequence number and a largest

(latest) sequence number provided to the request application unit (14 per Fig 7 or receiving

means receives the packet in error per col. 16 line 1 that has been received by the error detection

packet unit 22 per Fig 7 or request application unit which notifies 25a per Fig 8 of the largest or

latest sequence number in error. 26 per Fig 8 outputs a request for retransmission for the highest

sequence number in error which is received by 14 per Fig 7)

Retransmission packet detecting means for detecting (16 per Fig 7) whether a notified sequence

number existing in the retransmission buffer (17 per Fig 7).

Retransmission means (13A per Fig 7) for retransmitting all packets detected by retransmission

packet detecting means to the reception apparatus (Fig 8)

Referring to claims 2 & 26, A packet retransmission system (Fig 7 & 8) which includes a

transmission apparatus (103 per Fig 7) for transmitting a packet (col. 19 line 39) where a

sequence number is added (col. 19 line 29-48) a reception apparatus (Fig 8) connected to the

transmission apparatus (Fig 7) through a network (inherent between 103 and 21 per Fig 7) and a

request application unit (22 & 26 per Fig 7) connected to the reception apparatus (21 per Fig 8)

for retransmitting the packet (col. 19 line 39) where the sequence number is added (col. 19 line

29-48) between the transmission apparatus (103 per Fig 7) and the reception apparatus (21 per

Fig 8) at the loss of the packet in packet transmission (22 per Fig 8) the reception apparatus (Fig

7) comprising:

Reception buffer (inherent in 21 per Fig 8) for storing the packet (col. 9 line 39) received from

the transmission apparatus (103 per Fig 7)

Receiving means (21 per Fig 8) for storing the packet (col. 9 line 39) received from the

transmission apparatus (103 per Fig 7) in the reception buffer (inherent in 21 per Fig 8)with

sorting the packet in order of the sequence number (21 per Fig 8 sorts the packet in the sequence

number received before it hands them off to 22 per Fig 8)

Packet loss detecting means (22 per Fig 8) for detecting loss of the packet.

Retransmission-request list managing means for adding the sequence number to the

retransmission-request list based on the instruction to add (25A per Fig 8 sends the sequence

number or instruction to 26 per Fig 8)

Retransmission sequence number adding means for sending an instruction to add the sequence

number of the lost packet detected by the packet loss determining means to the retransmission-

request list (25A per Fig 8 or retransmission sequence number adding means sends message or

instruction to 26 per Fig 8 which creates a retransmission-request list for adding a packet lost

which was detected by 22 per Fig 8)

Retransmission-request transmitting means for putting the sequence number stored in the

retransmission-request list, in a retransmission-request packet sending the retransmission request

packet to the transmission apparatus (26 per Fig 8 transmits the sequence number of the packet

lost in an inherent packet which is sent to 103 per Fig 7 or transmission apparatus)

Packet providing means for providing the packet in the reception buffer to the request application

unit (42 per Fig 8 has an inherent buffer which is used to receive the in the packet decoding unit

or request application unit)

Referring to claims 3 & 27, Fukushima teaches: A packet retransmission system (Fig 7 & 8)

which includes a transmission apparatus (103 per Fig 7) for transmitting a packet (col. 19 line

39) where a sequence number is added (col. 19 line 29-48), a reception apparatus (Fig 8)

connected to the transmission apparatus (Fig 7) through a network (inherent between 103 and 21

per Fig 7) and a request application unit (22 & 26 per Fig 7) connected to the reception apparatus

(21 per Fig 8) for retransmitting the packet (col. 19 line 39) where the sequence number is added

(col. 19 line 29-48) between the transmission apparatus (103 per Fig 7) and the reception

apparatus (21 per Fig 8) at the loss of the packet in packet transmission (22 per Fig 8) the

transmission apparatus (Fig 7) comprising:

A retransmission buffer (17 per Fig 7) for storing the packet having been transmitted to the

reception apparatus (21 per Fig 8)

Retransmission-request receiving means for identifying the sequence number and a largest

(latest) sequence number provided to the request application unit (14 per Fig 7 or receiving

means receives the packet in error per col. 16 line 1 that has been received by the error detection

packet unit 22 per Fig 7 or request application unit which notifies 25a per Fig 8 of the largest or

latest sequence number in error. 26 per Fig 8 outputs a request for retransmission for the highest

sequence number in error which is received by 14 per Fig 7)

Retransmission packet detecting means for detecting (16 per Fig 7) whether a notified sequence

number existing in the retransmission buffer (17 per Fig 7).

Retransmission means (13A per Fig 7) for retransmitting all packets detected by retransmission

packet detecting means to the reception apparatus (Fig 8)

Reception buffer (inherent in 21 per Fig 8) for storing the packet (col. 9 line 39) received from

the transmission apparatus (103 per Fig 7)

Packet loss detecting means (22 per Fig 8) for detecting loss of the packet.

Receiving means (21 per Fig 8) for storing the packet (col. 9 line 39) received from the

transmission apparatus (103 per Fig 7) in the reception buffer (inherent in 21 per Fig 8)with

sorting the packet in order of the sequence number (21 per Fig 8 sorts the packet in the sequence

number received before it hands them off to 22 per Fig 8)

Retransmission sequence number adding means for sending an instruction to add the sequence

number of the lost packet detected by the packet loss determining means to the retransmission-

request list (25A per Fig 8 or retransmission sequence number adding means sends message or

instruction to 26 per Fig 8 which creates a retransmission-request list for adding a packet lost

which was detected by 22 per Fig 8)

Retransmission-request list managing means for adding the sequence number to the

retransmission-request list based on the instruction to add (25A per Fig 8 sends the sequence

number or instruction to 26 per Fig 8)

Retransmission-request transmitting means for putting the sequence number stored in the

retransmission-request list, in a retransmission-request packet sending the retransmission request

packet to the transmission apparatus (26 per Fig 8 transmits the sequence number of the packet

lost in an inherent packet which is sent to 103 per Fig 7 or transmission apparatus)

Packet providing means for providing the packet in the reception buffer to the request application

unit (42 per Fig 8 has an inherent buffer which is used to receive the in the packet decoding unit

or request application unit)

In addition Fukushima teaches:

Regarding claim 4 (depends on claim 3), claim 28 (depends on claim 27), & claim 39 depends

on 27); the transmission apparatus including: retransmission packet storing means for storing

one of a specific packet and a packet to be retransmitted at packet loss in the retransmission

packet buffer (17 per Fig 7 or packet storing means or buffer which stores packets to be

retransmitted when the packets are lost); the reception apparatus including: receiving means (21

per Fig 8) for receiving one of the specific packet and the packet to be retransmitted at packet

lost, and storing (22 per Fig 8) one of the specific packet and the packet to be retransmitted at

packet loss, with sorting in order of the sequence number , in the reception buffer (42 per Fig 8)

Regarding claim 5 (depends on claim 3) & claim 29 depends on claim 27); the reception

apparatus including retransmission-request list managing means for creating a retransmission-

request list which stores a sequence number of a packet currently being requested to retransmit

and a sequence number of a packet to be requested retransmission at a next retransmission

request time, for adding and deleting the sequence number, and for switching a status of a packet

of the sequence number stored in the retransmission-request list to be a retransmission request

status. (26 & 25A per Fig 8 inherently add or delete a sequence number thereby switching the

status of the sequence number wherein 26 per Fig 8 inherently stores the sequence number or

request status list in an inherent buffer prior to transmission of the list)

Regarding claim 7 (depends on claim 3), claim 31 (depends on claim 27), and claim 42 (depends on claim 39); the reception apparatus including: retransmission-request transmitting means including at least one sequence number of packet to be retransmit existing in the retransmission-request list and transmitting the retransmission request packet to the transmission apparatus (26 per Fig 8 or retransmission requesting means inherently includes the sequence number of one packet which is sent in a message which we will call a retransmission-request list to the retransmission apparatus per Fig 7)

Retransmission packet detecting means for detecting (16 per Fig 7) whether a notified sequence number existing in the retransmission buffer (17 per Fig 7).

- Retransmission request responding means (16 per Fig 7) for putting sequence numbers of all packets detected by the retransmission packet detecting means in a retransmission request response packet (14 per Fig 8) and transmission the retransmission-request response packet (13a per Fig 7 has the packet) to the reception apparatus (Fig 8)

Regarding claim 8 (depends on claim 3), claim 32 depends on claim 27, and claim 43 depends on claim 39); the reception apparatus including: retransmission-request transmitting means including at least one sequence number of packet to be retransmit existing in the retransmission-request list and transmitting the retransmission request packet to the transmission apparatus (26 per Fig 8 or retransmission requesting means inherently includes the sequence number of one packet which is sent in a message which we will call a retransmission-request list to the retransmission apparatus per Fig 7)

The transmission apparatus including:

Retransmission request receiving means for extracting the largest sequence number in the

retransmission request packet received form the reception apparatus and notifiying the largest

sequence number (16 per Fig 7 extracts largest number and notifies 18 per Fig 7)

Retransmission buffer deleting means for deleting packets of sequence numbers smaller than the

largest sequence number (18 per Fig 7 must inherently delete the sequence number smaller than

the largest sequence number in order for the retransmission buffer not to overflow or for the

invention to work when notified by the retransmission-request receiving means (14 per Fig 7)

from the retransmission buffer (17 per Fig 7)

Regarding claim 9 (depends on claim 3), claim 33 depends on claim 27, & claim 44 depends on

claim 39; the reception apparatus including: retransmission-request transmitting means

including at least one sequence number of packet to be retransmit existing in the retransmission-

request list and transmitting the retransmission request packet to the transmission apparatus (26

per Fig 8 or retransmission requesting means inherently includes the sequence number of one

packet which is sent in a message which we will call a retransmission-request list to the

retransmission apparatus per Fig 7)   ·

Retransmission packet detecting means for detecting (16 per Fig 7) whether a notified sequence

number existing in the retransmission buffer (17 per Fig 7).

Retransmission request responding means (16 per Fig 7) for putting sequence numbers of all

packets detected by the retransmission packet detecting means in a retransmission request

response packet (14 per Fig 8) and transmission the retransmission-request response packet (13a

per Fig 7 has the packet) to the reception apparatus (Fig 8)

Retransmission buffer deleting means for deleting packets of sequence numbers smaller than the

largest sequence number (18 per Fig 7 must inherently delete the sequence number smaller than

the largest sequence number in order for the retransmission buffer not to overflow or for the

invention to work when notified by the retransmission-request receiving means (14 per Fig 7)

from the retransmission buffer (17 per Fig 7)

Retransmission-request responding means (12 per Fig 7) for putting sequence numbers of all

packets detected by the retransmission packet detecting means (14 per Fig 7) in one

retransmission-request response packet (output of 13a per Fig 7 or packet retransmission-request

respons packet) and transmitting the retransmission-request response packet to the reception

apparatus (Fig 8) and

retransmission means (13A per Fig 8)for retransmitting packet detected by the retransmission

packet detecting means (16 per Fig 7) to the reception apparatus (Fig 8)

Regarding claim 10 (depends on claim 3), claim 34 depends on claim 27; the reception

apparatus including: retransmission-request receiving means for receiving a retransmission

request response packet including the sequence number of the packet to be retransmitted, form

the transmission apparatus (21 , 22, & 42 per Fig 8 are the means for receiving from the

transmission apparatus per Fig 7)

Retransmission buffer deleting means for deleting packets of sequence numbers smaller than the

largest sequence number (28 per Fig 8 must inherently delete the sequence number smaller than

the largest sequence number in order for the retransmission buffer 24 per Fig 8 so as not to

overflow for the invention to work when notified by the retransmission-request)

Regarding claim 13 (depends on claim 8), claim 37 (depends on claim 32) ,

claim 46 (depends on claim 44): reception apparatus including packet providing means, when a

packet to be provided within a specific time does not existing in the reception buffer for

performing a packet loss detection and retransmission (col. 4 lines 40-51)

Regarding claim 15, (depends on claim 3) for the packet transmission between the transmission

apparatus (Fig 7) and the reception apparatus (Fig 8) at the loss of the packet (32 per Fig 8)

where a general sequence number is added to each of all packets and a priority sequence number

is added to a specific packet and a packet to be retransmitted at packet loss (col 20 lines 42-60)

the transmission apparatus including: retransmission packet storing means (17 per Fig 7) for

storing one of the specific packet and the packet to be retransmitted at packet loss in the

retransmission buffer

Retransmission means (13A per Fig 7) for retransmitting one of the specific packet and the

packet to be retransmitted at packet loss

the reception apparatus including: receiving means (21 per Fig 8) for receiving one of one of

the specific packet and the packet to be retransmitted at packet loss and storing one of the

specific packet and the packet to be retransmitt5ed at packet loss, with sorting in order of the

general sequence number, in the reception buffer.

Regarding claim 16, retransmission list managing means for creating a retransmission list which

stores the general sequence number of packet to be retransmitted, and adding and deleting the

general sequence number (18 per Fig 7 creates the list of sequence numbers and adds and deletes

numbers inherently in order to make sure that the buffer does not overflow)

Regarding claim 17, the reception apparatus including: retransmission sequence number deleting

means (22, 25a, & 26 per Fig 8)

Packet loss detecting means (22B per Fig 33)& Retransmission sequence number adding means

(92 per Fig 33).

Regarding claim 18, retransmission-request transmitting means (26 per Fig 8); transmission

apparatus including: retransmission-request receiving means (14 per Fig 7) and retransmission

packet detecting means (16 per Fig 7) retransmission means (33 per Fig 7)

Regarding claim 19, the reception apparatus; including retransmission request transmitting

means (26, & 25A per Fig 8);the transmission apparatus including: retransmission request

receiving means (16 per Fig 7) and retransmission buffer deleting means (18 per Fig 7 must

inherently perform in order to prevent overflow of the buffer)

Regarding claim 20, the reception apparatus; including retransmission request transmitting

means (26, & 25A per Fig 8);the transmission apparatus including: retransmission request

receiving means (16 per Fig 7) and retransmission buffer deleting means (18 per Fig 7 must

inherently perform in order to prevent overflow of the buffer) ; retransmission packet detecting

means (18 per Fig 7) and retransmission means for retransmitting (13A per Fig 7)

Regarding claim 40 (depends on claim 39), reception apparatus: the retransmission management

is performed by 18 per Fig 7.
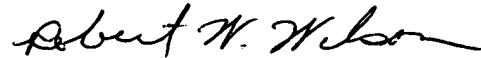
Conclusion

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Robert W. Wilson whose telephone number is 571/272-3075.

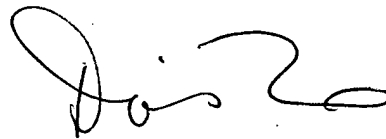The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Doris To can be reached on 571/272-7629. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Robert W Wilson
Examiner
Art Unit 2616

RWW
3/22/06

DORIS H. TO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600